

Fig. 1

NL1:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60
 CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCTCTGTTCOCGAGGATCGTCCCA 120
 ACCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180
 M A D T I F G S G N D Q 12
 TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC 240
 W V C P N D R Q L A L R A K L Q T G W S 32
 GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGCGGAGGTG 300
 V H T Y Q T E K Q R R K Q H L S P A E V 52
 GAGGCCATCCTGCAGGTATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA 360
 E A I L Q V I Q R A E R L D V L E Q Q R 72
 ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG 420
 I G R L V E R L E T M R R N V M G N G L 92
 TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCTGGGCAGCTCGTCGGTGTCTGTC 480
 S Q C L L C G E V L G F L G S S S V F C 112
 AAAGACTGCAGGAAGGTCTGGAAGAGGTGCGGGGCGCTGGTTCTACAAAGGGCTCCCCAAG 540
 K D C R K V W K R S G A W F Y K G L P K 132
 TATATCTGCCCCCTGAAGACCCCTGGCCGAGCTGATGAGCCCCAGTTCGACCTTGGCCC 600
 Y I L P L K T P G R A D E P Q F R P W P 152
 ACGGAACCGGCAGAGCGAGAGCCCAAGCTCTGAGACCAGCCGCATCTACACGTGGGCC 660
 T E P A E R E P R S S E T S R I Y T W A 172
 CGAGGAAGAGTGGTTTCCAGTGACAGTGACAGTACTCGGATCTTAGCTCCTCCAGCCTA 720
 R G R V V S S D S D S D S D L S S S S L 192
 GAGGACAGACTCCCATCCACTGGGGTCAGGGACCGGAAAGGCGACAAACCCTGGAAGGAG 780
 E D R L P S T G V R D R K G D K P W K E 212
 TCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGGTTCACCCAACCCGCGGGCCACCTCTTT 840
 S G G S V E A P R M G F T Q P A G H L F 232

GGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACGGGCACAGGCTCTGCTGACCCGCCAGGG 900
G L Q S S L A S G E T G T G S A D P P G 252
GGAGGGACAGGCTCTGCTGACCCGCCAGGGGGACCCCGCCCGGGCTGACCCGAAGGGCC 960
G G T G S A D P P G G P R P G L T R R A 272
CCGGTAAAAGACACACCTGGACGAGCCCCGCTGCTGACGCAGCTCCAGCAGGCCCCCTCC 1020
P V K D T P G R A P A A D A A P A G P S 292
AGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAACAGACTTCCCTGTGGAGGATTCTGC 1080
S C L G * 296
AGACCTGCCCCGCTCCTCCCTGACCGGTCCTTGTGCCCTCACCAGACACCTGTTGGCC 1140
ATGACTCAACAAACCAGTGTGGGAGCCGCTGCTGCCCTCCCAGCTCAGTGCCTTTCTGCAC 1200
CCCTTCTCTCCTGGGAGCTGTCTGCATCCGCCACCCCTCCAACCACTGCCCTCAGCC 1260
CCGACCTTATTTATTACCCTCCCTCCCACACCCCAATCTACCTGGTGATGATTTTAAG 1320
TTTGCGCGTGTCTTGGGTGGGCTGGGGGGTTTCCACATGCAGTGTGAGGGGCGCC 1380
CGGTGGGGCTATCTCGTTGCTATATTAATGGCAAGACTAAATGAAACCTAGGGCACGGC 1440
CTCCGAAGCTGCGTGTGGCCCCCTTAGAGGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAG 1500
ACTCACCCACCTCTCCCTCTCCCTTCAGCTCTGGGAGGCAGGCGCAGTGCCCCCTCCC 1560
ATGGGCTGGCCCAGGACCGCGGGTGAAACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTA 1620
TGTTTTGTTGTTTTTGACACAGTCTCGCTTTGTTGCCAGGCTGGGGTGAGTGGCACGA 1680
TCGCGGCTCACTGCAACCTCCACCTCCCGGGCTCAAGCGATTCTCTCACCTCAGCCTCCT 1740
GAGTAGGTGGGATTACAGATGCCCGCCACCACCCAGTTAATTTTGTATTTTGAAG 1800
AGATGGGGTTTCTCCATGTTGGCCAGGCTGGTCTTGAACCTCCTGGTCTCAAGTGATCCGC 1860
CCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGCACCAATCCTATT 1920
AGGTTTCTTTGAATCCCTCATGGCTGCCTGGTTTTTGTCTCAGCTGTCTTCAGCTTGA 1980
GGAGCTGGGAAGCTCTGGTGGATGCTATGAACTCACTTGCTGAAGAGCAGCGTTCAGGTG 2040
CATCCCCAGCCAGGGCACGTGGCTCCCTCAGCCATGAATTCAGTTCTCTTCAGGAGGTTT 2100
GGCTTGGCATGAAAATACTTCATTACAGATATGGGCAATGCTTCTGGAAAACCTTCCC 2160
TGAAGAGAGAGAACGTGTGTGTGTGTGCGGTGATCACACCTCCCATCCTTCCTGCCTC 2220
CTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCT 2280
GGGCCCCACCATTCACTTTTTGTCTTGTGCTGGCAAACAGTAAAGAACTGACTTTC 2340
CCTGTGGCAGTTATGCTTCAGAATTAAACAATGAAGATTAAAA 2385

Fig. 2

CL1:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60
 CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCCTCTGTTCCCGAGGATCGTCCCA 120
 ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180
 M A D T I F G S G N D Q 12
 TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCCAAGCTGCAGACGGGCTGGTCC 240
 W V C P N D R Q L A L R A K L Q T G W S 32
 GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG 300
 V H T Y Q T E K Q R R K Q H L S P A E V 52
 GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA 360
 E A I L Q V I Q R A E R L D V L E Q Q R 72
 ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG 420
 I G R L V E R L E T M R R N V M G N G L 92
 TCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTCTGC 480
 S Q C L L C G E V L G F L G S S S V F C 112
 AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG 540
 K D C R K K V C T K C G I E A S P G Q K 132
 CGGCCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTGCGGG 600
 R P L W L C K I C S E Q R E V W K R S G 152
 GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCCTGAAGACCCCTGGCCGAGCT 660
 A W F Y K G L P K Y I L P L K T P G R A 172
 GATGACCCCCACTTCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT 720
 D D P H F R P L P T E P A E R E P R S S 192
 GAGACCAGCCGCATCTACACGTGGGCCCCGAGGAAGAGTGGTTTCCAGTGACAGTGACAGT 780
 E T S R I Y T W A R G R V V S S D S D S 212
 GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC 840
 D S D L S S S S L E D R L P S T G V R D 232

CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCAGGATGGGG 900
R K G D K P W K E S G G S V E A P R M G 252
TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG 960
F T Q P A G H L F G L Q S S L A S G E T 272
GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA 1020
G T G S A D P P G G G T G S A D P P G G 292
CCCCGCCCCGGGCTGACCCGAAGGGCCCCGTTAAAGACACACCTGGACGAGCCCCCGCT 1080
P R P G L T R R A P V K D T P G R A P A 312
GCTGACGCAGCTCCAGCAGGCCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA 1140
A D A A P A G P S S C L G * 325
CAGACTTCCCTGTGGAGGATTCTGCCAGACCCTGCCCGGCTCTCCCTGACCGGTCCTT 1200
GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTGGGAGCCGCTCTG 1260
CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC 1320
ACCCCTCCAACCACTGCCCTCAGCCCCGACCTTATTTATTACCCTCCCCTCCCACACC 1380
CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTGGGCTGGGGGGTTT 1440
CCCACATGCAGTGTGAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC 1500
AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAG 1560
CATCAGAGCCAGAGCAGTGAGGGGGGAGACTACCCACCCTCTCCCTCTCCCTCAGCTCT 1620
GGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCAGGACCGGGTGAAACCTGG 1680
GTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTGTTTGTGACACAGTCTCGCTTTGT 1740
TGCCCAGGCTGGGGTGAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT 1800
CAAGCGATTCTCTACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA 1860
CCCAGTTAATTTTGTATTTTGTAGAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC 1920
TTGAACTCCTGGTCTCAAGTGATCCGCCCCGCTCGGCCTCCCAAAGTGCTGGGATTACAG 1980

GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG 2040
TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT 2100
CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC 2160
ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTTCAGAGTATG 2220
GGCAAATGCTTCTGGAAAACCCCTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG 2280
ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG 2340
GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCTTGCTGC 2400
TGGCAAACAGTAAAGAACTCACTTCCCTGTGGCACGTTATGCTTCAGAATTAAACAA 2460
TGAAGATTAAAA 2472

Fig. 3**CL2:**

GGCTCCTCATCTGGAACACCTCGGGTCACCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60
 CTCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120
 ACCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180
 TGGGTTTGCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT 240
 GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC 300
 TGGTCGGTGACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG 360
 GAGGTGGAGGCCATCCTGCAGGTATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG 420
 CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC 480
 M R R N V M G N 8
 GGCCTGTCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCTGGGCAGCTCGTCGGTG 540
 G L S Q C L L C G E V L G F L G S S S V 28
 TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC 600
 F C K D C R K K V C T K C G I E A S P G 48
 CAGAAGCGGCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG 660
 Q K R P L W L C K I C S E Q R E V W K R 68
 TCGGGGGCCTGGTTCTACAAAGGGCTCCCAAGTATATCTTGCCCTGAAGACCCCTGGC 720
 S G A W F Y K G L P K Y I L P L K T P G 88
 CGAGCTGATGACCCCACTTCCGACCTTTGCCACGGAACCGGCAGAGCGAGAGCCAGA 780
 R A D D P H F R P L P T E P A E R E P R 108
 AGCTCTGAGACCAGCCGCATCTACACGTGGGCCGAGGAAGAGTGGTTTCCAGTGACAGT 840
 S S E T S R I Y T W A R G R V V S S D S 128
 GACAGTGA CTGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC 900
 D S D S D L S S S S L E D R L P S T G V 148
 AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG 960
 R D R K G D K P W K E S G G S V E A P R 168

ATGGGGTTACCCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT 1020
M G F T Q P A G H L F G L Q S S L A S G 188
GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGAGGGACAGGCTCTGCTGACCCGCCA 1080
E T G T G S A D P P G G G T G S A D P P 208
GGGGGACCCCGCCCGGGCTGACCCGAAGGGCCCCGGTAAAGACACACCTGGACGAGCC 1140
G G P R P G L T R R A P V K D T P G R A 228
CCCCTGCTGACGCAGCTCCAGCAGGCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC 1200
P A A D A A P A G P S S C L G * 243
CTGGAACAGACTTCCCTGTGGAGGATTCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG 1260
GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACAGTGTGGGAGC 1320
CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGAGCTGTCTGCA 1380
TCCGCCACCCCTCCAACCACTGCCCTCAGCCCCGACCTTATTTATTACCCTCCCTCC 1440
CACACCCCAATCTACCTGGTGATGATTTTAAGTTTGC CGTGTCTTGGGTGGGCTGGG 1500
GGGTTTCCACATGCAGTGTGAGAGGGCGCCCGGTGGGGCTATCTCCGTTGCTATATT 1560
AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCTTAGA 1620
GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC 1680
AGCTCTGGGAGGCAGGCGCAGTGCCCCCTCCCATGGGCTGGCCAGGACCGCGGGTGAA 1740
ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTGTTTTTGACACAGTCTCG 1800
CTTTGTTGCCCAGGCTGGGGTGAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC 1860
CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCCGC 1920
ACCACACCCAGTTAATTTTGTATTTTAGAAGAGATGGGGTTCTCCATGTTGGCCAGG 1980
CTGGTCTTGAACCTCTGGTCTCAAGTGATCCGCCCCGCTCGGCCTCCCAAAGTGCTGGGA 2040
TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT 2100
GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA 2160

TGAAC TCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2220
TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATT CAG 2280
AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2340
TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC 2400
TGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCACCATTCACTTTTTGTCTC 2460
TGCTGCTGGCAAACAGTAAAGAAACTCACTTCCCTGTGGCACGTTATGCTTCAGAATTA 2520
AAACAATGAAGATTAAAA 2538

Fig. 4

CL3:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60
 CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120
 ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180
 M A D T I F G S G N D Q 12
 TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC 240
 W V C P N D R Q L A L R A K L Q T G W S 32
 GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG 300
 V H T Y Q T E K Q R R K Q H L S P A E V 52
 GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA 360
 E A I L Q V I Q R A E R L D V L E Q Q R 72
 ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG 420
 I G R L V E R L E T M R R N V M G N G L 92
 TCCCACTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTCTGC 480
 S Q C L L C G E V L G F L G S S S V F C 112
 AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG 540
 K D C R K K V C T K C G I E A S P G Q K 132
 CGGCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTGGGG 600
 R P L W L C K I C S E Q R E V W K R S G 152
 GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCTGAAGACCCCTGGCCGAGCT 660
 A W F Y K G L P K Y I L P L K T P G R A 172
 GATGACCCCCACTTCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCAGAAGCTCT 720
 D D P H F R P L P T E P A E R E P R S S 192
 GAGACCAGCCGATCTACACGTGGGCCCCGAGGAAGAGTCGTAGGAAGAAAGTGCTGATCC 780
 E T S R I Y T W A R G R V V G R K C * 210

ACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGGAGACGA 840
AAGGCCGCGTGTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGTGACAGT 900
GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC 960
CGGAAAGGCGACAAACCCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG 1020
TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGCTGAGACG 1080
GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA 1140
CCCCGCCCGGGCTGACCCGAAGGGCCCCGGTAAAGACACACCTGGACGAGCCCCCGCT 1200
GCTGACGCAGCTCCAGCAGGCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA 1260
CAGACTTCCCTGTGGAGGATTCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT 1320
GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGCTCTG 1380
CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGAGCTGTCTGCATCCGCC 1440
ACCCCTCCAACTGACCTGACCTCAGCCCCGACCTTATTTATTACCCTCCCTCCACACC 1500
CCCAATCTACCTGGTGATGATTTTAAGTTTGCCTGTCTTGGGTTGGGCTGGGGGGTTT 1560

CCCACATGCAGTGTGAGAGGGGCGCCCGTGGGGCTATCTCCGTGCTATATTAATGGC 1620
AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCTTAGAGGTGAG 1680
CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT 1740
GGGAGGCAGGCGCAGTGCCCCCTCCCATGGGCTGGCCAGGACCGGGTGAAACCTGG 1800
GTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTGTTTTTGACACAGTCTCGCTTTGT 1860
TGCCAGGCTGGGGTGCAGTGGCAGGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT 1920
CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA 1980
CCGAGTTAATTTTTGTATTTTGTAGAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC 2040

TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG 2100
GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG 2160
TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT 2220
CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC 2280
ATGAATCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTGAGATATG 2340
GGCAAATGCTTCTGGAAAACCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG 2400
ATCACACCCTCCCATCCTTCTGCCTCCTGCCCCAAACCCGGGTTCTGGGTCTGGAAG 2460
GGCCTTCTCTCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTGTCTTGCTGC 2520
TGGCAAACAGTAAAGAAACTCACTTCCCTGTGGCACGTTATGCTTCAGAATTAACAACAA 2580
TGAAGATTAAAA 2592

Fig. 5

CL4:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60
 CTCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120
 ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180
 TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT 240
 GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC 300
 TGGTCCGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGC 360
 GAGGTGGAGGCCATCCTGCAGGTCTCCAGAGGGCAGAGCGGCTCGACGTCTGGAGCAG 420
 CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC 480
 M R R N V M G N 8
 GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG 540
 G L S Q C L L C G E V L G F L G S S S V 28
 TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC 600
 F C K D C R K K V C T K C G I E A S P G 48
 CAGAAGCGGCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG 660
 Q K R P L W L C K I C S E Q R E V W K R 68
 TCGGGGGCCTGGTTCTACAAGGGCTCCCCAAGTATATCTTGCCCTGAAGACCCCTGGC 720
 S G A W F Y K G L P K Y I L P L K T P G 88
 CGAGCTGATGACCCCCACTTCCGACCTTTGCCACGGAACCGGCAGAGCGAGAGCCAGA 780
 R A D D P H F R P L P T E P A E R E P R 108
 AGCTCTGAGACCAGCCGCATCTACAGTGGGCCGAGGAAGAGTCGTAGGAAGAAAGTGC 840
 S S E T S R I Y T W A R G R V V G R K C 128
 TGATCCACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGAAGAAGCCGG 900
 AGACGAAAGGCCGCGTGTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGT 960
 GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC 1020
 AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG 1080
 ATGGGGTTACCCAAACCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT 1140

GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGGGGACAGGCTCTGCTGACCCGCCA 1200
GGGGGACCCCGCCCGGGCTGACCCGAAGGGCCCGGTAAAAGACACACCTGGACGAGCC 1260
CCCGCTGCTGACGCAGCTCCAGCAGGCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC 1320
CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG 1380
GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTGGGAGC 1440
CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA 1500
TCCGCCACCCCTCCAACCACTGCCCTCAGCCCCGACCTTATTTATTACCCTCCCCTCC 1560
CACACCCCAATCTACCTGGTGATGATTTTAAGTTTGC GCGTGTCTTGGGTGGGCTGGG 1620
GGGTTTCCACATGCAGTGT CAGAGGGGCGCCCGGTGGGGCTATCTCCGTTGCTATATT 1680
AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCTTAGA 1740
GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC 1800
AGCTCTGGGAGGCAGGCGCAGTGCCCCCTCCCATGGGCTGGCCAGGACCGCGGGTGAA 1860
ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTGTTTGTGTTTGTGACACAGTCTCG 1920
CTTTGTTGCCAGGCTGGGGTGAGTGACGATCGCGGCTCACTGCAACCTCCACCTCC 1980
CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC 2040
ACCACACCCAGTTAATTTTGTATTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG 2100
CTGGTCTTGAACCTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA 2160
TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCTCATGGCCT 2220
GCCTGGTTTTTGTCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA 2280
TGAACCTACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2340
TCAGCCATGAATTCATTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG 2400
AGTATGGGCAAATGCTTCTGGAAAACCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2460
TCGGTGATCACACCCTCCCATCCTTCTGCCTCCTGCCCCAAACCCGGGTTCTGGGTC 2520
TGGAAGGGCCTTCTCTCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCT 2580
TGCTGCTGGCAAACAGTAAAGAACTCACTTCCCTGTGGCACGTTATGCTTCAGAATTA 2640
AAACAATGAAGATTAAAA 2658

Fig. 6

1	15 16	30 31	45 46	60 61	75 76	90
1	-----					0
1	NOC2	-----				
2	NL1	GGCTCCTCATCTGGA	ACACCTCGGGTCACC	CCGACAAACGGTGGT	GGGAGGGAGAGCGGC	CTCCTCCTCCCTGGT GGGGCCCTGTCTGGGT
3	LC1	GGCTCCTCATCTGGA	ACACCTCGGGTCACC	CCGACAAACGGTGGT	GGGAGGGAGAGCGGC	CTCCTCCTCCCTGGT GGGGCCCTGTCTGGGT
4	LC2	GGCTCCTCATCTGGA	ACACCTCGGGTCACC	CCGACAAACGGTGGT	GGGAGGGAGAGCGGC	CTCCTCCTCCCTGGT GGGGCCCTGTCTGGGT
5	LC3	GGCTCCTCATCTGGA	ACACCTCGGGTCACC	CCGACAAACGGTGGT	GGGAGGGAGAGCGGC	CTCCTCCTCCCTGGT GGGGCCCTGTCTGGGT
6	LC4	GGCTCCTCATCTGGA	ACACCTCGGGTCACC	CCGACAAACGGTGGT	GGGAGGGAGAGCGGC	CTCCTCCTCCCTGGT GGGGCCCTGTCTGGGT
91	105 106	120 121	135 136	150 151	165 166	180
1	-----TCCCA ACCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG					65
2	NL1	GAAGCCCTCTGTTC	CCGAGGATCGTCCCA	ACCCCCAGCCGGGTG	CTCCGAGCCATGGCC	GACACCATCTTCGGC AGCGGGAATGATCAG
3	LC1	GAAGCCCTCTGTTC	CCGAGGATCGTCCCA	ACCCCCAGCCGGGTG	CTCCGAGCCATGGCC	GACACCATCTTCGGC AGCGGGAATGATCAG
4	LC2	GAAGCCCTCTGTTC	CCGAGGATCGTCCCA	ACCCCCAGCCGGGTG	CTCCGAGCCATGGCC	GACACCATCTTCGGC AGCGGGAATGATCAG
5	LC3	GAAGCCCTCTGTTC	CCGAGGATCGTCCCA	ACCCCCAGCCGGGTG	CTCCGAGCCATGGCC	GACACCATCTTCGGC AGCGGGAATGATCAG
6	LC4	GAAGCCCTCTGTTC	CCGAGGATCGTCCCA	ACCCCCAGCCGGGTG	CTCCGAGCCATGGCC	GACACCATCTTCGGC AGCGGGAATGATCAG

	181	195 196	210 211	225 226	240 241	255 256	270
1 NOC2	TGGGTTTGCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC	---	---	---	108
2 NL1	TGGGTTTGCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC	---	---	---	223
3 LC1	TGGGTTTGCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC	---	---	---	223
4 LC2	TGGGTTTGCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC	---	---	---	270
5 LC3	TGGGTTTGCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC	---	---	---	223
6 LC4	TGGGTTTGCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC	---	---	---	270
271	285 286	300 301	315 316	330 331	345 346	360	
1 NOC2	-----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		179
2 NL1	-----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		294
3 LC1	-----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		294
4 LC2	AGCACAGGTGGGCAG	AGGCTGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG	360
5 LC3	-----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		294
6 LC4	AGCACAGGTGGGCAG	AGGCTGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG	360
361	375 376	390 391	405 406	420 421	435 436	450	
1 NOC2	GAGGTGAGGCCATC	CTGCAGGTCAATCCAG	AGGGCAGAGGGGCTC	GACGTCTTGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG	269
NL1	GAGGTGAGGCCATC	CTGCAGGTCAATCCAG	AGGGCAGAGGGGCTC	GACGTCTTGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG	384

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361 375 376 390 391 405 406 420 421 435 436 450

1 NOC2 GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGGGGCTC GACGTCTCTGGAGCAG CAGAGAAATCGGGCGG CTGCTGGAGCGGGCTG 269

NI.1 GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGGGGCTC GACGTCTCTGGAGCAG CAGAGAAATCGGGCGG CTGCTGGAGCGGGCTG 384

3	LC1	GAGGTGAGGGCCATC	CTGCAGTCAATCCAG	AGGGCAGAGGGGCTC	GACGTCTCTGGAGCAG	CAGAGAAATCGGGGCG	CTGGTGGAGCGGCTG	384
4	LC2	GAGGTGAGGGCCATC	CTGCAGTCAATCCAG	AGGGCAGAGGGGCTC	GACGTCTCTGGAGCAG	CAGAGAAATCGGGGCG	CTGGTGGAGCGGCTG	450
5	LC3	GAGGTGAGGGCCATC	CTGCAGTCAATCCAG	AGGGCAGAGGGGCTC	GACGTCTCTGGAGCAG	CAGAGAAATCGGGGCG	CTGGTGGAGCGGCTG	384
6	LC4	GAGGTGAGGGCCATC	CTGCAGTCAATCCAG	AGGGCAGAGGGGCTC	GACGTCTCTGGAGCAG	CAGAGAAATCGGGGCG	CTGGTGGAGCGGCTG	450
1	LOC2	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCACTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	359
2	NL1	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCACTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	474
3	LC1	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCACTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	474
4	LC2	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCACTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	540
5	LC3	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCACTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	474
6	LC4	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCACTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	540
1	LOC2	TTCTGCAAAAGACTGC	AGGAAGAAAGTCTGC	ACCAATGTGGGATC	GAGGCCTCCCTGGC	CAGAAAGCGGCCCTG	TGGCTGTGTAAGATC	449
2	NL1	TTCTGCAAAAGACTGC	AGGAAG	-----	-----	-----	-----	495
3	LC1	TTCTGCAAAAGACTGC	AGGAAGAAAGTCTGC	ACCAATGTGGGATC	GAGGCCTCCCTGGC	CAGAAAGCGGCCCTG	TGGCTGTGTAAGATC	564
4	LC2	TTCTGCAAAAGACTGC	AGGAAGAAAGTCTGC	ACCAATGTGGGATC	GAGGCCTCCCTGGC	CAGAAAGCGGCCCTG	TGGCTGTGTAAGATC	630
5	LC3	TTCTGCAAAAGACTGC	AGGAAGAAAGTCTGC	ACCAATGTGGGATC	GAGGCCTCCCTGGC	CAGAAAGCGGCCCTG	TGGCTGTGTAAGATC	564
6	LC4	TTCTGCAAAAGACTGC	AGGAAGAAAGTCTGC	ACCAATGTGGGATC	GAGGCCTCCCTGGC	CAGAAAGCGGCCCTG	TGGCTGTGTAAGATC	630

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5	LC3	CTAGAGCAGACTC	CCATCCACTGGGTC	AGGACCGGAAAGGC	GACAAACCTTGAAG	GAGTCAGGTGGCAGC	GTGAGGCCCCCAGG	1011
6	LC4	CTAGAGCAGACTC	CCATCCACTGGGTC	AGGACCGGAAAGGC	GACAAACCTTGAAG	GAGTCAGGTGGCAGC	GTGAGGCCCCCAGG	1080
		1081	1095 1096	1110 1111	1125 1126	1140 1141	1155 1156	1170
1	NOC2	ATGGGGTTTCAACCCAC	CCGCGGGGCCACCTC	TCTGGGTGCCAGAGC	AGCCTGGCCACTGGT	GAGACGGG	-----	847
2	NLI1	ATGGGGTTTCAACCAA	CCGCGGGGCCACCTC	TTTGGTTGCAGAGC	AGCCTGGCCAGTGGT	GAGACGGGCACAGGC	TCTGCTGACCCGCCA	897
3	LC1	ATGGGGTTTCAACCAA	CCGCGGGGCCACCTC	TTTGGTTGCAGAGC	AGCCTGGCCAGTGGT	GAGACGGGCACAGGC	TCTGCTGACCCGCCA	984
4	LC2	ATGGGGTTTCAACCAA	CCGCGGGGCCACCTC	TTTGGTTGCAGAGC	AGCCTGGCCAGTGGT	GAGACGGGCACAGGC	TCTGCTGACCCGCCA	1050
5	LC3	ATGGGGTTTCAACCAA	CCGCGGGGCCACCTC	TTTGGTTGCAGAGC	AGCCTGGCCAGTGGT	GAGACGGGCACAGGC	TCTGCTGACCCGCCA	1104
6	LC4	ATGGGGTTTCAACCAA	CCGCGGGGCCACCTC	TTTGGTTGCAGAGC	AGCCTGGCCAGTGGT	GAGACGGGCACAGGC	TCTGCTGACCCGCCA	1170
		1171	1185 1186	1200 1201	1215 1216	1230 1231	1245 1246	1260
1	NOC2	-----GACAGGC	TCTGCTGACCCGCCA	GGGGGACCCCGCCCC	GGGCTGACCCGAAGG	GCCCCGGTAAAAGAC	ACACCTGGACGAGCC	929
2	NLI1	GGGGGAGGGACAGGC	TCTGCTGACCCGCCA	GGGGGACCCCGCCCC	GGGCTGACCCGAAGG	GCCCCGGTAAAAGAC	ACACCTGGACGAGCC	987
3	LC1	GGGGGAGGGACAGGC	TCTGCTGACCCGCCA	GGGGGACCCCGCCCC	GGGCTGACCCGAAGG	GCCCCGGTAAAAGAC	ACACCTGGACGAGCC	1074
4	LC2	GGGGGAGGGACAGGC	TCTGCTGACCCGCCA	GGGGGACCCCGCCCC	GGGCTGACCCGAAGG	GCCCCGGTAAAAGAC	ACACCTGGACGAGCC	1140
5	LC3	GGGGGAGGGACAGGC	TCTGCTGACCCGCCA	GGGGGACCCCGCCCC	GGGCTGACCCGAAGG	GCCCCGGTAAAAGAC	ACACCTGGACGAGCC	1194
6	LC4	GGGGGAGGGACAGGC	TCTGCTGACCCGCCA	GGGGGACCCCGCCCC	GGGCTGACCCGAAGG	GCCCCGGTAAAAGAC	ACACCTGGACGAGCC	1260

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4	LC2	CGTCTGCCTCCCCAG	CTCAGTGCCTTTCTG	CACCCCTTCTCTCCT	GGGAGCTGTCTGCA	TCGGCCACCCCTCC	AACCACTGCCCTCAG	1410
5	LC3	CGTCTGCCTCCCCAG	CTCAGTGCCTTTCTG	CACCCCTTCTCTCCT	GGGAGCTGTCTGCA	TCGGCCACCCCTCC	AACCACTGCCCTCAG	1464
6	LC4	CGTCTGCCTCCCCAG	CTCAGTGCCTTTCTG	CACCCCTTCTCTCCT	GGGAGCTGTCTGCA	TCGGCCACCCCTCC	AACCACTGCCCTCAG	1530
		1531	1545 1546	1560 1561	1575 1576	1590 1591	1605 1606	1620
1	NOC2	CCCCGACCTTATTT	ATTACCTCCGCTCC	CACACCCCAATCTA	CCTGTGATGATTTT	AGGTTTGGCGTGTC	TTGGGTTGGGCTGGG	1289
2	NLI1	CCCCGACCTTATTT	ATTACCTCCGCTCC	CACACCCCAATCTA	CCTGTGATGATTTT	AGGTTTGGCGTGTC	TTGGGTTGGGCTGGG	1347
3	LC1	CCCCGACCTTATTT	ATTACCTCCGCTCC	CACACCCCAATCTA	CCTGTGATGATTTT	AGGTTTGGCGTGTC	TTGGGTTGGGCTGGG	1434
4	LC2	CCCCGACCTTATTT	ATTACCTCCGCTCC	CACACCCCAATCTA	CCTGTGATGATTTT	AGGTTTGGCGTGTC	TTGGGTTGGGCTGGG	1500
5	LC3	CCCCGACCTTATTT	ATTACCTCCGCTCC	CACACCCCAATCTA	CCTGTGATGATTTT	AGGTTTGGCGTGTC	TTGGGTTGGGCTGGG	1554
6	LC4	CCCCGACCTTATTT	ATTACCTCCGCTCC	CACACCCCAATCTA	CCTGTGATGATTTT	AGGTTTGGCGTGTC	TTGGGTTGGGCTGGG	1620
		1621	1635 1636	1650 1651	1665 1666	1680 1681	1695 1696	1710
1	NOC2	GGGTTTCCACATGC	AGTGTACAGAGGGGC	GGCCGTTGGGCTAT	CTCCGTTGCTATATT	AATGCAAGACTAAA	TGAAACCTAGGGCAC	1379
2	NLI1	GGGTTTCCACATGC	AGTGTACAGAGGGGC	GGCCGTTGGGCTAT	CTCCGTTGCTATATT	AATGCAAGACTAAA	TGAAACCTAGGGCAC	1437
3	LC1	GGGTTTCCACATGC	AGTGTACAGAGGGGC	GGCCGTTGGGCTAT	CTCCGTTGCTATATT	AATGCAAGACTAAA	TGAAACCTAGGGCAC	1524
4	LC2	GGGTTTCCACATGC	AGTGTACAGAGGGGC	GGCCGTTGGGCTAT	CTCCGTTGCTATATT	AATGCAAGACTAAA	TGAAACCTAGGGCAC	1590
5	LC3	GGGTTTCCACATGC	AGTGTACAGAGGGGC	GGCCGTTGGGCTAT	CTCCGTTGCTATATT	AATGCAAGACTAAA	TGAAACCTAGGGCAC	1644
6	LC4	GGGTTTCCACATGC	AGTGTACAGAGGGGC	GGCCGTTGGGCTAT	CTCCGTTGCTATATT	AATGCAAGACTAAA	TGAAACCTAGGGCAC	1710

3	LC1	GTATGTTTGTGTT	TTTGACACAGTCTCG	CTTTGTTGCCAGGC	TGGGTTGCAGTGGCA	CGATCGGCTCACT	GCAACCTCCACCTCC	1794
4	LC2	GTATGTTTGTGTT	TTTGACACAGTCTCG	CTTTGTTGCCAGGC	TGGGTTGCAGTGGCA	CGATCGGCTCACT	GCAACCTCCACCTCC	1860
5	LC3	GTATGTTTGTGTT	TTTGACACAGTCTCG	CTTTGTTGCCAGGC	TGGGTTGCAGTGGCA	CGATCGGCTCACT	GCAACCTCCACCTCC	1914
6	LC4	GTATGTTTGTGTT	TTTGACACAGTCTCG	CTTTGTTGCCAGGC	TGGGTTGCAGTGGCA	CGATCGGCTCACT	GCAACCTCCACCTCC	1980

	1981	1995	1996	2010	2011	2025	2026	2040	2041	2055	2056	2070
1	NOC2	CGGGCTCAAGCGATT	CTCTCACTCAGCCT	CCTGAGTAGTGGGA	TTACAGATGCCGCC	ACACACCCAGTTAA	TTTTTGTATTTTTAG	1739				
2	NLI1	CGGGCTCAAGCGATT	CTCTCACTCAGCCT	CCTGAGTAGTGGGA	TTACAGATGCCGCC	ACACACCCAGTTAA	TTTTTGTATTTTTAG	1797				
3	LC1	CGGGCTCAAGCGATT	CTCTCACTCAGCCT	CCTGAGTAGTGGGA	TTACAGATGCCGCC	ACACACCCAGTTAA	TTTTTGTATTTTTAG	1884				
4	LC2	CGGGCTCAAGCGATT	CTCTCACTCAGCCT	CCTGAGTAGTGGGA	TTACAGATGCCGCC	ACACACCCAGTTAA	TTTTTGTATTTTTAG	1950				
5	LC3	CGGGCTCAAGCGATT	CTCTCACTCAGCCT	CCTGAGTAGTGGGA	TTACAGATGCCGCC	ACACACCCAGTTAA	TTTTTGTATTTTTAG	2004				
6	LC4	CGGGCTCAAGCGATT	CTCTCACTCAGCCT	CCTGAGTAGTGGGA	TTACAGATGCCGCC	ACACACCCAGTTAA	TTTTTGTATTTTTAG	2070				

	2071	2085	2086	2100	2101	2115	2116	2130	2131	2145	2146	2160
1	NOC2	AAGAGATGGGGTTTC	TCCATGTTGGCCAGG	CTGGTCTTGAAC	TCC	TGGTCTCAAGTGATC	CGCCCGCCTCGGCCT	CCCAAAGTCTGGGA	1829			
2	NL1	AAGAGATGGGGTTTC	TCCATGTTGGCCAGG	CTGGTCTTGAAC	TCC	TGGTCTCAAGTGATC	CGCCCGCCTCGGCCT	CCCAAAGTCTGGGA	1887			
3	LC1	AAGAGATGGGGTTTC	TCCATGTTGGCCAGG	CTGGTCTTGAAC	TCC	TGGTCTCAAGTGATC	CGCCCGCCTCGGCCT	CCCAAAGTCTGGGA	1974			
4	LC2	AAGAGATGGGGTTTC	TCCATGTTGGCCAGG	CTGGTCTTGAAC	TCC	TGGTCTCAAGTGATC	CGCCCGCCTCGGCCT	CCCAAAGTCTGGGA	2040			

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2341	2355	2356	2370	2371	2385	2386	2400	2401	2415	2416	2430
1	NOC2	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTTCATTTCAG	AGTATGGGCAAAATGC	TTCTGGAAAACCCCTT	2099			
2	NL1	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTTCATTTCAG	AGTATGGGCAAAATGC	TTCTGGAAAACCCCTT	2157			
3	LC1	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTTCATTTCAG	AGTATGGGCAAAATGC	TTCTGGAAAACCCCTT	2244			
4	LC2	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTTCATTTCAG	AGTATGGGCAAAATGC	TTCTGGAAAACCCCTT	2310			
5	LC3	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTTCATTTCAG	AGTATGGGCAAAATGC	TTCTGGAAAACCCCTT	2364			
6	LC4	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTTCATTTCAG	AGTATGGGCAAAATGC	TTCTGGAAAACCCCTT	2430			
2431	2445	2446	2460	2461	2475	2476	2490	2491	2505	2506	2520
1	NOC2	CCCTGAAGAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCAAAACC	COGGGTTCTCTGGGTC	2189			
2	NL1	CCCTGAAGAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCAAAACC	COGGGTTCTCTGGGTC	2247			
3	LC1	CCCTGAAGAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCAAAACC	COGGGTTCTCTGGGTC	2334			
4	LC2	CCCTGAAGAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCAAAACC	COGGGTTCTCTGGGTC	2400			
5	LC3	CCCTGAAGAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCAAAACC	COGGGTTCTCTGGGTC	2454			
6	LC4	CCCTGAAGAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCAAAACC	COGGGTTCTCTGGGTC	2520			
2521	2535	2536	2550	2551	2565	2566	2580	2581	2595	2596	2610
1	NOC2	TGGAAGGGCCTTCTC	TCCAAGCTGGGAGCT	CTTGGGCCCCACCACCA	TTTCACTTTTGTCTCT	TGCTGTGGCAAAACA	GTAAAGAAACTCACT	2279			
2	NL1	TGGAAGGGCCTTCTC	TCCAAGCTGGGAGCT	CTTGGGCCCCACCACCA	TTTCACTTTTGTCTCT	TGCTGTGGCAAAACA	GTAAAGAAACTCACT	2337			

Fig. 7

1	15 16	30 31	45 46	60 61	75 76	90
1 NOC2	MADTIFGSGNDQWVC	PNDROLALRAKLQTG	WSVHTYQTEKQRRKQ	HLSPAEEVAILQVIO	RAERLDVLEQQORIGR	LVERLETMRNRVMGN 90
2 NL1	MADTIFGSGNDQWVC	PNDROLALRAKLQTG	WSVHTYQTEKQRRKQ	HLSPAEEVAILQVIO	RAERLDVLEQQORIGR	LVERLETMRNRVMGN 90
3 LC1	MADTIFGSGNDQWVC	PNDROLALRAKLQTG	WSVHTYQTEKQRRKQ	HLSPAEEVAILQVIO	RAERLDVLEQQORIGR	LVERLETMRNRVMGN 90
4 LC2	-----	-----	-----	-----	-----	-----MRNRVMGN 8
5 LC3	MADTIFGSGNDQWVC	PNDROLALRAKLQTG	WSVHTYQTEKQRRKQ	HLSPAEEVAILQVIO	RAERLDVLEQQORIGR	LVERLETMRNRVMGN 90
6 LC4	-----	-----	-----	-----	-----	-----MRNRVMGN 8
91	105 106	120 121	135 136	150 151	165 166	180
1 NOC2	GLSQCLLCGEVLGFL	GSSSVFCKDCRKKVC	TKGGIEASPGQKRPL	WLCKICSEQREVWKR	SGAWFYKGLPKYILP	LKTPGRADDPHERPL 180
2 NL1	GLSQCLLCGEVLGFL	GSSSVFCKDCR---	-----	-----VMKR	SGAWFYKGLPKYILP	LKTPGRADEPQFRPW 151
3 LC1	GLSQCLLCGEVLGFL	GSSSVFCKDCRKKVC	TKGGIEASPGQKRPL	WLCKICSEQREVWKR	SGAWFYKGLPKYILP	LKTPGRADDPHERPL 180
4 LC2	GLSQCLLCGEVLGFL	GSSSVFCKDCRKKVC	TKGGIEASPGQKRPL	WLCKICSEQREVWKR	SGAWFYKGLPKYILP	LKTPGRADDPHERPL 98
5 LC3	GLSQCLLCGEVLGFL	GSSSVFCKDCRKKVC	TKGGIEASPGQKRPL	WLCKICSEQREVWKR	SGAWFYKGLPKYILP	LKTPGRADDPHERPL 180
6 LC4	GLSQCLLCGEVLGFL	GSSSVFCKDCRKKVC	TKGGIEASPGQKRPL	WLCKICSEQREVWKR	SGAWFYKGLPKYILP	LKTPGRADDPHERPL 98

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181	195 196	210 211	225 226	240 241	255 256	270
1	NOC2 PTEPAEREPRSSSETS RIYTWARGRVVSSDS DSDDLSSSSLEDRL PSTGVRDRKGDKEPKW ESGGSVEAPRMGFTQ PPGHLSGCQSSLASG					270
2	NL1 PTEPAEREPRSSSETS RIYTWARGRVVSSDS DSDDLSSSSLEDRL PSTGVRDRKGDKEPKW ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG					241
3	LC1 PTEPAEREPRSSSETS RIYTWARGRVVSSDS DSDDLSSSSLEDRL PSTGVRDRKGDKEPKW ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG					270
4	LC3 PTEPAEREPRSSSETS RIYTWARGRVVGRKC -----					210
5	LC4 PTEPAEREPRSSSETS RIYTWARGRVVGRKC -----					128
6	LC2 PTEPAEREPRSSSETS RIYTWARGRVVSSDS DSDDLSSSSLEDRL PSTGVRDRKGDKEPKW ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG					188
271	285 286	300 301	315 316	330		
1	NOC2 ETGTGSADPPGG-----PRPGLTRR APVKDTPGRAPAADA APAGPSSCLG			315		
2	NL1 ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG			296		
3	LC1 ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG			325		
4	LC2 ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG			243		
5	LC3 -----			210		
6	LC4 -----			128		